

VitalStim Therapy in Long Term Care

Background

VitalStim Therapy is the use of neuromuscular electrical stimulation (NMES) during dysphagia therapy. Patients exercise their swallowing muscles while simultaneously receiving transcutaneous electrical stimulation applied through surface electrodes attached to the skin over the anterior neck. This use of NMES is FDA cleared and proven to be safe and effective, especially in stroke and deconditioned patients. Therapists receive special certification training to ensure competency.

Dysphagia has significant cost impact

- 40-60% of nursing home residents have dysphagia¹
- Up to 65% of stroke patients have dysphagia²⁻⁵
- Fluid intake is insufficient in dysphagic patients following stroke⁶
- Dementia and dehydration are significant risk factors for pressure ulcer incidence⁷
- Up to 10% of nursing home residents and as many as 1.7% of Medicare patients over the age of 85 undergo gastrostomy⁸
- Direct charges associated with tube feeding over 1 year are estimated at approximately \$30,000 (much of this cost incurred after hospital discharge)⁹
- Quality of life and ability to participate in therapy are severely affected as a result of dehydration and malnutrition¹⁰

Quality indicators negatively affected by dysphagia

- Need for help with ADLs
- Occurrence of pressure sores
- Use of restraints (cognition)
- Incidence of Depression, Anxiety
- Confinement to bed/chair; immobility
- Dehydration, Malnutrition
- Incidence of falls
- Non-healing wounds

Treatment of dysphagia is directly related to improved function

- Swallowing treatment improves swallowing function, and improved swallowing function is associated with improvements in nutritional parameters¹¹
- Thickened liquids do not alter the rate of water absorption in the gut¹²
- Better nutrition leads to better exercise performance and prevents energy depletion as a result of rehabilitation of the compromised patient¹³

Cost benefit of using VitalStim Therapy

- VitalStim Therapy is effective to treat dysphagia^{14, 15}
- Improved hydration and nutrition is directly correlated with improved patient outcomes and direct cost benefits (decreased associated costs and complications)
- Decreased number of patients on tube feeding
- Improved staff and patient satisfaction

Benefits of implementing VitalStim Therapy Program

- ↑ staff recruitment/retention
- ↑ patient admissions
- ↑ marketability
- ↑ patient's participation in therapy
- ↑ performance on state surveys
- ↓ cost of dysphagia complications
- ↓ reliance on tube feeding

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Cost impact study

Figure 1 below shows a typical scenario in a long term care facility. In this case study, the facility has 20 skilled beds and 80 residential nursing home beds. The percentages of dysphagia patients are in line with national averages. The savings are based on the avoidance of cost associated with dysphagia. The extra earnings are derived from additional part B billing. This facility realized a net positive impact on the bottom line of \$5,420 per month with a very healthy ROI. The investment was recouped within the first few weeks.

Estimate of cost impact prepared for:	LTC	
Monthly burden of dysphagia		
Total number beds	MC Part A	Non-Medicare
Occupancy (%)	20	100
Patients on modified diets (%)	85%	85%
Patients with feeding tubes (%)	35%	35%
Total number of pts with dysphagia	5%	5%
Additional cost of dysphagia/day (in \$)	6.8	34.0
	75	75
Total:	(\$15,512.50)	(\$77,562.50)
Potential savings per month		
Increased oral feeding days (Part A & B)	3	3
	\$ 1,530.00	\$ 7,650.00
Additional earnings per month		
% of pts with RUG score increase (Part A only)	40%	
Avg # treatments/pt - 92526 (Part B only)		12
Additional cost per month		
Implementation	60%	20%
Investment		
Handheld units (@\$1,595)	1	\$1,595.00
Cost benefit calculation		
	Savings: \$	2,448.00
	Earnings:	\$6,691.20
	Net/month:	\$5,420.57
	Net/year:	\$65,046.86
	Investment:	\$1,595.00
	ROI:	4078%

Figure 1: Cost Impact in typical LTC facility

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References

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